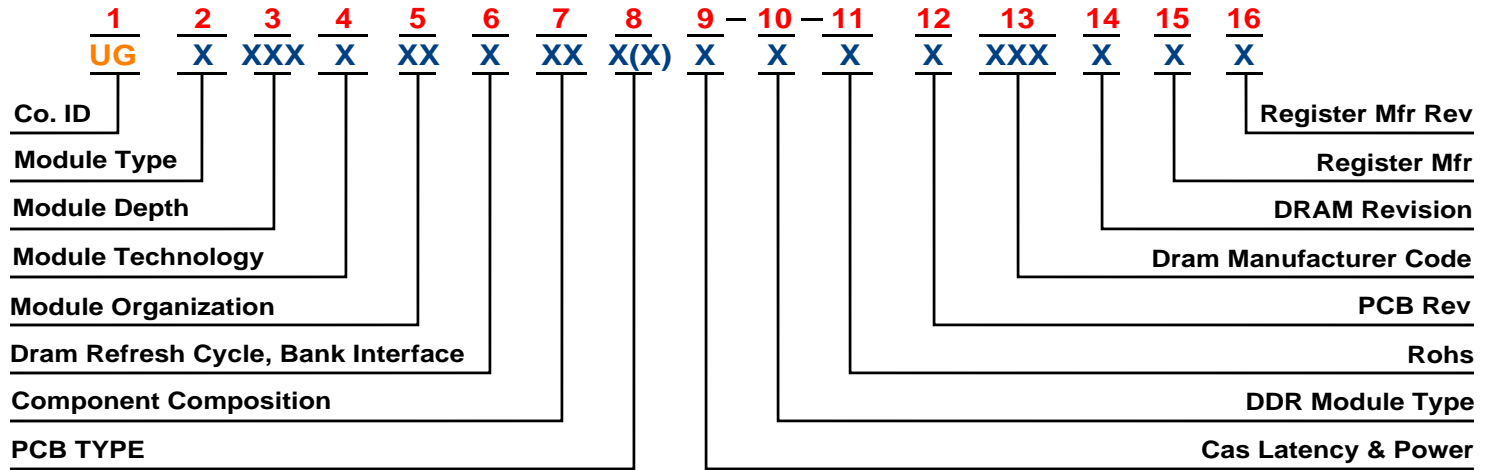




DDR SDRAM Module Ordering Information



1. Co. ID = Unigen HP

2. Module Type

- 7 = 184 Pin DIMM
- 0 = 200 Pin SODIMM
- E = 172 Pin Micro DIMM
- 8 = 100 Pin DIMM

3. Module Depth

- 1 = 1Mb
- 2 = 2Mb
- 4 = 4Mb
- 8 = 8Mb
- 16 = 16Mb
- 32 = 32Mb
- 64 = 64Mb
- 128 = 128Mb
- 256 = 256Mb
- 512 = 512Mb

4. Module Technology

- D = DDR SDRAM

5. Module Organization

- 32 = X32 (BRANDA)
- 63 = X64 w/PLL only
- 66 = X64
- 65 = X64 REG & PLL
- 73 = X72 ECC w/PLL Only
- 74 = X72 ECC
- 75 = X72 ECC REG & PLL

6. Dram Refresh Cycle, Bank Interface

Monolithic

- 2 = 2K, 2B
- 0 = 4K, 2B
- 4 = 4K, 4B
- 6 = 8K, 2B
- 8 = 8K, 4B

Package Stacked

- J = 2K, 2B
- K = 4K, 2B
- L = 4K, 4B
- P = 8K, 2B
- Q = 8K, 4B

Die Stacked

- A = 2K, 2B
- B = 4K, 2B
- C = 4K, 4B
- F = 8K, 2B
- G = 8K, 4B

Die & Package Stacked

- H = 8K, 4B

7. Component Composition

- 4H = 16MX4
- 6H = 4MX16
- 8H = 8MX8
- 4J = 32MX4
- 6J = 8MX16
- 8J = 16MX8
- 4K = 64MX4
- 6K = 16MX16
- 8K = 32MX8
- 4L = 128MX4
- 6L = 32MX16
- 8L = 64MX8
- 4M = 256MX4
- 6M = 64MX16
- 8M = 128MX8
- 4N = 512MX4
- 6N = 128MX16
- 8N = 256MX8
- 4P = 1024MX4
- 6P = 256MX16
- 8P = 512MX8

8. PCB TYPE

184 Pin DIMM

- C = VIBE-K (X4 FBGA) 1.20"
- M = ALTIMA (X4) 1.125"

9. Cas Latency & Power

- E = CL2.0 Normal Power
- D = CL2.5 Normal Power
- G = CL3.0 Normal Power
- J = CL4.0 Normal Power
- F = CL2.0 Low-Power
- C = CL2.5 Low-Power
- H = CL3.0 Low-Power
- K = CL4.0 Low-Power

10. DDR Module Type

- B = PC1600 (DDR200) 100MHZ
- C = PC2000 (DDR250) 125MHZ
- Z = PC2100 (DDR266) 133MHZ
- E = PC2300 (DDR286) 143MHZ
- F = PC2400 (DDR300) 150MHZ
- G = PC2500 (DDR308) 154MHZ
- H = PC2700 (DDR333) 166MHZ
- J = PC3200 (DDR400) 200MHZ
- K = PC4000 (DDR500) 250MHZ

11. Rohs

- F = LeadFree, Rohs

12. PCB Rev

- 0 = No Rev / 1st Gen
- 1 = Rev 1
- 2 = Rev 2
- 3 = Rev 3
- 4 = Rev 4
- 5 = Rev 5

13. Dram Manufacturer Code

- MIC = Micron
- WIN = Winbond
- ELP = Elpida
- FUJ = Fujitsu
- LGS = LG Semicon
- NAN = Nanya
- ELX = Elixir
- OKI = OKI
- SAM = Samsung
- HYN = Hynix
- MOS = Mosel Vitelic
- UMC = UMC
- NPN = NPNX
- NCP = NCP
- PRO = Promos
- MIR = MIRA
- PMI = PMI

14. DRAM Revision

- 0 = No Rev
- 2 = Rev B2 (Qimonda only)
- 3 = Rev C (Qimonda only)
- 4 = Rev C4 (Qimonda only)
- A = Rev A
- B = Rev B
- C = Rev C
- C = Rev C2 (Qimonda only)
- D = Rev D
- E = Rev E
- F = Rev F
- G = Rev G
- H = Rev H
- I = Rev I
- J = Rev J
- K = Rev K
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- R = Rev R
- S = Rev S
- T = Rev T
- U = Rev U
- V = Rev V
- W = Rev W
- Y = Rev Y
- Z = Rev Z

15. Register Mfr

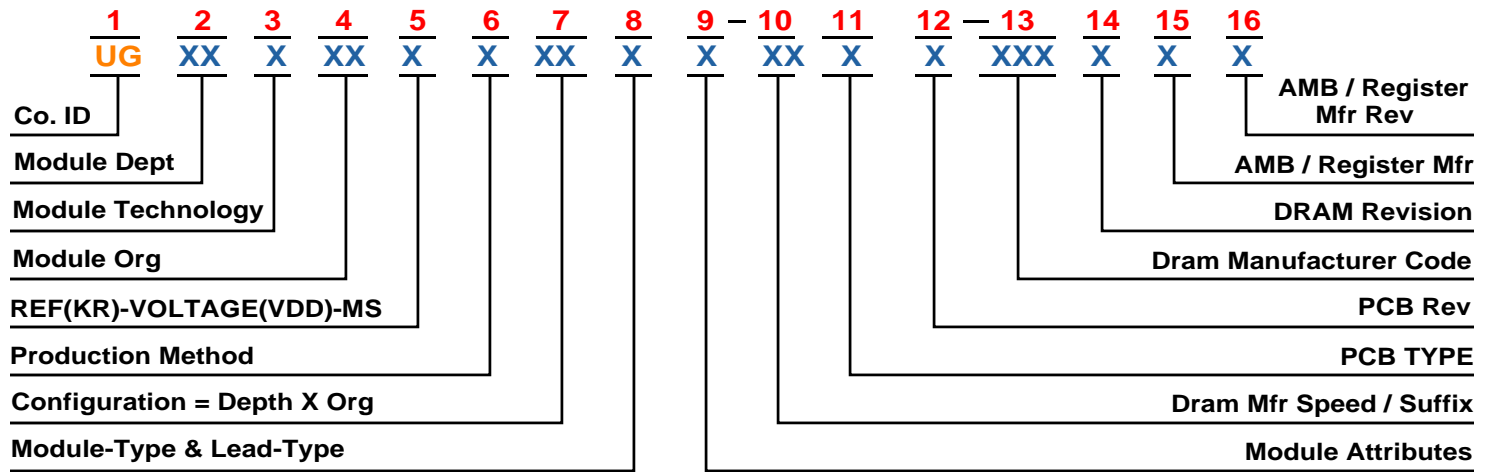
- 0 = Non-Reg/Non-FBDIMM
- D = IDT
- N = NEC
- M = MONTEGE
- T = INTEL
- S = SILEGO
- P = INPHI
- E = TEXAS INSTRUMENTS

16. Register Mfr Rev

- 0 = No Rev
- 1 = Rev 1
- 2 = Rev 2
- 3 = Rev 3
- 4 = Rev 4
- 5 = Rev 5
- A = Rev A
- B = Rev B
- C = Rev C
- D = Rev D
- E = Rev E
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- T = Rev T
- U = Rev U
- V = Rev V
- W = Rev W
- Y = Rev Y
- Z = Rev Z



DDR2 SDRAM Module Ordering Information



1. Co. ID = Unigen HP

2. Module Dept

- 16 = 16Mx
- 32 = 32Mx
- 64 = 64Mx
- 12 = 128Mx
- 25 = 256Mx
- 51 = 512Mx
- 10 = 1024Mx
- 20 = 2048Mx

3. Module Technology

- T = DDR2

4. Module Org

- 32 = x32 Non-ECC
- 64 = x64 Non-ECC
- 72 = x72 ECC

5. REF(KR)-VOLTAGE(VDD)-MS

- 0 = 8KR-1.8V-64MS
- 1 = 8KR-1.9V-66MS
- 2 = 8KR-2.0V-67MS
- 3 = 8KR-2.1V-68MS
- 4 = 8KR-2.2V-69MS
- 5 = 8KR-2.3V-70MS
- 6 = 8KR-1.5V-64MS

6. Production Method

- 0 = MONO-COM-STD
- 1 = MONO-COM-LP
- 2 = DDP or STACKED-COM-STD 2CS/2CKE
- 3 = DDP or STACKED-COM-LP 2CS/2CKE
- 4 = DDP or STACKED-COM-STD 1CS/1CKE
- 5 = DDP or STACKED-COM-LP 1CS/1CKE
- 8 = MONO-IND-STD
- 9 = MONO-IND-LP

MONO = Monolithic Package
 DDP = Dual-Die Package
 COM = Commercial Temperature
 IND = Industrial Temperature
 STD = Standard PowerLP = Low Power

7. Configuration = Depth X Org

- L4 = 128Mx4
- L6 = 32Mx16
- L8 = 64Mx8
- M4 = 256Mx4
- M5 = 256MX4 (Package Stacked w/128Mx4)
- M6 = 64Mx16
- M7 = 128Mx8 (Package Stacked w/128Mx4)
- M8 = 128Mx8
- M9 = 128Mx8 (Package Stacked w/64Mx8)
- N4 = 512Mx4
- N5 = 512Mx4 (Package Stacked w/256Mx4)
- N6 = 128Mx16
- N7 = 256Mx8 (Package Stacked w/256Mx4)
- N8 = 256Mx8
- N9 = 256Mx8 (Package Stacked w/128Mx8)
- P4 = 1024MX4
- P6 = 256MX16
- P8 = 512MX8

8. Module-Type & Lead-Type

- F = 200Pin SOCDIMM
- R = 200Pin SORDIMM
- D = 240Pin DIMM
- S = 200Pin SODIMM
- C = 214Pin MicroDIMM
- N = 244Pin MiniDIMM
- M = 144Pin SODIMM

9. Module Attributes

- U = UnRegistered & No-PLL
- C = UnRegistered & No-PLL with Connector
- R = Registered w/ PLL
- P = UnRegistered w/ PLL
- F = FB DIMM w/ AMB
- A = Apple FB DIMM w/ AMB
- B = Registered & No-PLL
- S = FB DIMM w/ AMB (Integrated HeatSpreader)

10. Dram Mfr Speed / Suffix

- 4A = PC2-3200 / 400Mbps CL3. (3-3-3)
- 4C = PC2-3200 / 400Mbps CL4. (4-4-4)
- 5A = PC2-4200 / 533Mbps CL4. (4-4-4)
- 5B = PC2-4200 / 533Mbps CL3. (3-3-3)
- 6A = PC2-5300 / 667Mbps CL5. (5-5-5)
- 6B = PC2-5300 / 667Mbps CL4. (4-4-4)
- 8A = PC2-6400 / 800Mbps CL5. (5-5-5)
- 8B = PC2-6400 / 800Mbps CL5. (5-5-5)
- [OverClocked To 800Mbps From 667MHz CL5 IC]
- 8C = PC2-6400 / 800Mbps CL6. (6-6-6)

11. PCB TYPE

200Pin SODIMM

- D = B62SRCB 2.10 (x8 FBGA 1.181")
- I = OPTIMA-6 (x8 FBGA 1.181")
- S = SNOWBELL (x8 FBGA 1.18")

200Pin SORDIMM

- A = UTD2X8SOR V1.0 (x8 FBGA 1RX72 TFBGA REG 1.181")

12. PCB Rev

- 0 = No Rev / 1st Gen
- 1 = Rev 1
- 2 = Rev 2
- 3 = Rev 3
- 4 = Rev 4
- 5 = Rev 5

13. Dram Manufacturer Code

- MIC = Micron
- WIN = Winbond
- INF = Infineon
- ELP = Elpida
- FUJ = Fujitsu
- LGS = LG Semicon
- NAN = Nanya
- ELX = Elixir
- OKI = OKI
- SAM = Samsung
- HYN = Hynix
- MOS = Mosel Vitelic
- UMC = UMC
- NPN = NPNX
- NCP = NCP
- PRO = Promos
- MIR = MIRA
- PMI = PMI

14. DRAM Revision

- 0 = No Rev
- 2 = Rev B2 (Qimonda only)
- 3 = Rev C (Qimonda only)
- 4 = Rev C4 (Qimonda only)
- A = Rev A
- B = Rev B
- C = Rev C
- C = Rev C2 (Qimonda only)
- D = Rev D
- E = Rev E
- F = Rev F
- G = Rev G
- H = Rev H
- I = Rev I
- J = Rev J
- K = Rev K
- L = Rev L
- M = Rev M
- N = Rev N
- O = Rev O
- P = Rev P
- Q = Rev Q
- R = Rev R
- S = Rev S
- T = Rev T
- U = Rev U
- V = Rev V
- W = Rev W
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- Z = Rev Z

15. AMB / Register Mfr

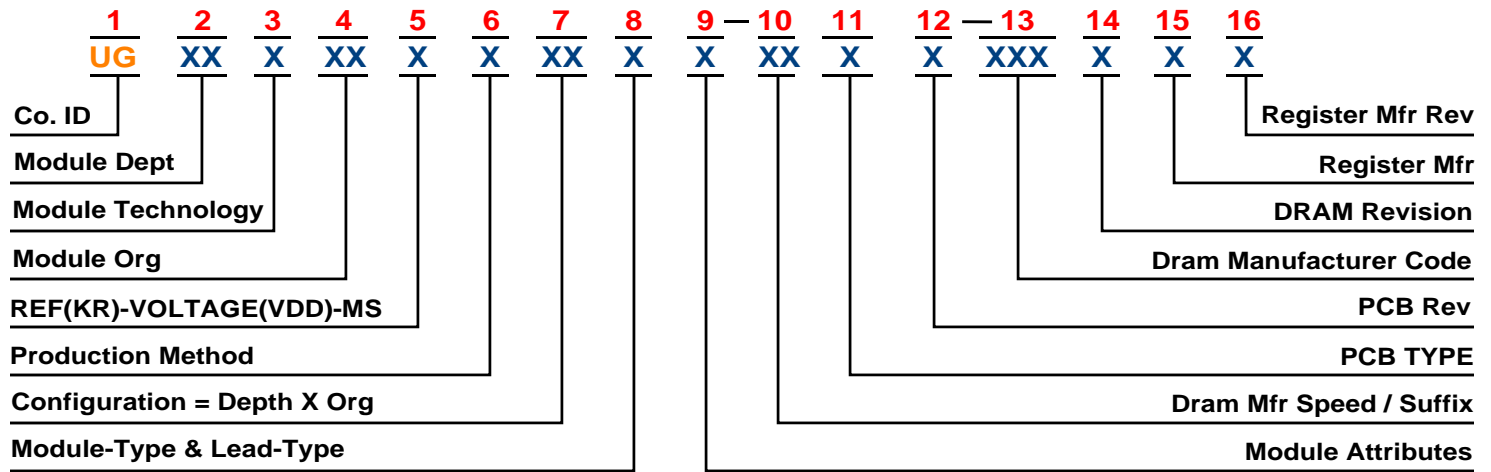
- 0 = Non-Reg/Non-FBDIMM
- D = IDT
- N = NEC
- M = MONTAGE
- T = INTEL
- S = SILEGO
- P = INPHI
- E = TEXAS INSTRUMENTS

16. AMB / Register Mfr Rev

- 0 = No Rev
- 1 = Rev 1
- 2 = Rev 2
- 3 = Rev 3
- 4 = Rev 4
- 5 = Rev 5
- A = Rev A
- B = Rev B
- C = Rev C
- D = Rev D
- E = Rev E
- F = Rev F
- G = Rev G
- H = Rev H
- I = Rev I
- J = Rev J
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- M = Rev M
- N = Rev N
- O = Rev O
- P = Rev P
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- R = Rev R
- S = Rev S
- T = Rev T
- U = Rev U
- V = Rev V
- W = Rev W
- Y = Rev Y
- Z = Rev Z



DDR3 SDRAM Module Ordering Information



1. Co. ID = Unigen HP

2. Module Dept

- 16 = 16Mx
- 32 = 32Mx
- 64 = 64Mx
- 12 = 128Mx
- 25 = 256Mx
- 51 = 512Mx
- 10 = 1024Mx
- 20 = 2048Mx

3. Module Technology

U = DDR3

4. Module Org

- 32 = x32 Non-ECC
- 64 = x64 Non-ECC
- 72 = x72 ECC

5. REF(KR)-VOLTAGE(VDD)-MS

- 0 = 8KR-1.5V-64MS
- 1 = 8KR-1.35V / 1.5V-64MS

6. Production Method

- 0 = MONO-COM-STD
- 1 = MONO-COM-LP
- 2 = DDP or STACKED-COM-STD 2CS/2CKE
- 3 = DDP or STACKED-COM-LP 2CS/2CKE
- 4 = DDP or STACKED-COM-STD 1CS/1CKE
- 5 = DDP or STACKED-COM-LP 1CS/1CKE
- 8 = MONO-IND-STD
- 9 = MONO-IND-LP

MONO = Monolithic Package
 DDP = Dual-Die Package
 COM = Commercial Temperature
 IND = Industrial Temperature
 STD = Standard PowerLP = Low Power

7. Configuration = Depth X Org

- L4 = 128Mx4
- L6 = 32Mx16
- L8 = 64Mx8
- M4 = 256Mx4
- M5 = 256MX4 (Package Stacked w/128Mx4)
- M6 = 64Mx16
- M7 = 128Mx8 (Package Stacked w/128Mx4)
- M8 = 128Mx8
- M9 = 128Mx8 (Package Stacked w/64Mx8)
- N4 = 512Mx4
- N5 = 512Mx4 (Package Stacked w/256Mx4)
- N6 = 128Mx16
- N7 = 256Mx8 (Package Stacked w/256Mx4)
- N8 = 256Mx8
- N9 = 256Mx8 (Package Stacked w/128Mx8)
- P4 = 1024MX4
- P6 = 256MX16
- P8 = 512MX8

8. Module-Type & Lead-Type

- D = 240Pin DIMM
- S = 200Pin SODIMM
- C = 214Pin MicroDIMM
- N = 244Pin MiniDIMM
- M = 240Pin FBDIMM

9. Module Attributes

- U = UnRegistered & No-PLL
- C = UnRegistered & No-PLL with Connector
- R = Registered w/ PLL
- P = UnRegistered w/ PLL
- F = FB DIMM w/ AMB
- A = Apple FB DIMM w/ AMB
- B = Registered & No-PLL
- D = UnRegistered w/ Thermal Sensor
- E = UnRegistered w/ Thermal Sensor & Heatspreader
- G = Registered w/ Thermal Sensor
- H = Registered w/ Thermal Sensor & Heatspreader

10. Dram Mfr Speed / Suffix

- 8A = 800Mbps CL5. (5-5-5)
- 8B = 800Mbps CL6. (6-6-6)
- 9A = 1066Mbps CL6. (6-6-6)
- 9B = 1066Mbps CL7. (7-7-7)
- 9C = 1066Mbps CL8. (8-8-8)
- AA = 1333Mbps CL7. (7-7-7)
- AB = 1333Mbps CL8. (8-8-8)
- AC = 1333Mbps CL9. (9-9-9)
- BA = 1600Mbps CL8. (8-8-8)
- BB = 1600Mbps CL9. (9-9-9)
- BC = 1600Mbps CL10. (10-10-10)

11. PCB TYPE

240Pin DIMM

- K = CHEROKEE (x8 1RX72 UnREG 1.181")
- M = NAVAJO (x8 2RX72 UnREG 1.181")

12. PCB Rev

- 0 = No Rev / 1st Gen
- 1 = Rev 1
- 2 = Rev 2
- 3 = Rev 3
- 4 = Rev 4
- 5 = Rev 5

13. Dram Manufacturer Code

- MIC = Micron
- WIN = Winbond
- INF = Infineon
- ELP = Elpida
- FUJ = Fujitsu
- LGS = LG Semicon
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- 0 = No Rev
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- A = Rev A
- B = Rev B
- C = Rev C
- C = Rev C2 (Qimonda only)
- D = Rev D
- E = Rev E
- F = Rev F
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- H = Rev H
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- Z = Rev Z

15. Register Mfr

- 0 = Non-Reg/Non-FBDIMM
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16. Register Mfr Rev

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- R = Rev R
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- U = Rev U
- V = Rev V
- W = Rev W
- Y = Rev Y
- Z = Rev Z

Note: 36 DRAM & Above Need Heatspreader